



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/825,783	04/04/2001	Jian-Feng Chen	2001 P 05879 US	1315

7590 07/09/2004

Siemens Corporation  
Attn: Elsa Keller, Legal Administrator  
Intellectual Property Department  
186 Wood Avenue South  
Iselin, NJ 08830

EXAMINER

PATEL, JAYANTI K

ART UNIT	PAPER NUMBER
----------	--------------

2625

DATE MAILED: 07/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/825,783

Applicant(s)

CHEN ET AL.

Examiner

Jayanti K. Patel

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5,6 and 11-16 is/are allowed.
- 6) ☒ Claim(s) 1-3 and 7-9 is/are rejected.
- 7) ☒ Claim(s) 4 and 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Response to Amendment / Arguments*

1. Applicant's amendment / arguments filed April 19, 2004 have been fully considered but are moot in view of new grounds of rejection necessitated by applicant's amendment.

Applicant's arguments regarding objection of claim 5 and 11; and the rejection of claims 4, 8, and 10 under 35 U.S.C. 112 has been withdrawn. Additionally, the rejection of claims 5 and 11 under 35 U.S.C. 103 has been withdrawn. Newly added claims 13-16 along with claims 5 and 11 incorporate objected claim limitation deemed allowable and are therefore indicated allowable.

2. Applicant's arguments regarding claims 1-3 and 7-9 have been fully considered but are not persuasive. Contrary to applicant's assertion, Hossack does not disclose point by point or pixel by pixel measurement (see column 19, lines 45-55), specifically, **"Additionally, because motion estimates are used, this method can be much less computationally intensive than method that compare pixels on a point-to-point basis over the image"** (emphasis added).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-3, 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hossack et al. (US 5,873,830) in view of Ophir et al. (US 5,178,147).

Regarding claims 1-3, Hossack discloses an ultrasound imaging system for improving the resolution comprising the steps of:

performing a motion analysis on at least two selected Regions of Interest (ROI) before and after tissue compression (column 22, lines 25-55 and column 7, line 64 through column 8, line 10).

Hossack discloses a medical imaging system for imaging tissue under a predetermined compression profile without specific details regarding the steps of providing a strain estimate and comparing the strain estimates.

In the same field of endeavor, however, Ophir discloses an elastographic measurement and imaging system comprising the steps of providing a strain estimate and comparing the strain estimates for at least two ROIs (column 9, lines 9-47).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the steps of providing and comparing strain estimates as taught by Ophir in the system of Hossack because Ophir provides Hossack with a system which allows Hossack for accurate, localized determination and imaging of important parameter, compressibility, which has been used qualitatively in medicine for a very long time.

As to claims 2-3, Hossack discloses the steps of generating a plurality of blocks and utilizing block-matching technique touching a boundary of the two regions (column 10, lines 40-60 and column 13, lines 20-34). All other limitations of claims 2-3 are similarly analyzed as claim 1 above.

As to claims 7-9, claims 7-9 are a computer readable medium claims corresponding to method claims 1-3 above and are similarly analyzed.

As to claims 7-9, the steps claimed as computer readable medium is nothing more than restating the function of the specific components of the method as claimed above and therefore, it would have been obvious, considering the aforementioned rejection for the method claims 1-3.

***Allowable Subject Matter***

6. Claims 4, 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

***Contact information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jayanti K. Patel whose telephone number is (703) 308-7728. The examiner can normally be reached on Monday-Friday (7:00-4:00), alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (703) 308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JKP

July 7, 2004



Jayanti K. Patel  
Primary Examiner